

CLAIMS

We claim as our invention:

1. Apparatus comprising:
 - (a) a substrate;
 - (b) an interference detector formed on the substrate which detects interference from an interfering network and determines interfering hop sequence data relating to the interfering network, wherein the interfering network is a frequency hopping spread spectrum (FHSS) network in which a predetermined number of FHSS channels are used for frequency hopping; and
 - (c) a hop sequencer which is formed on the substrate and coupled to said interference detector and which alters the hop sequence of a second FHSS network based upon the interfering hop sequence data;wherein the altered hop sequence comprises the same number of channels as the predetermined number of FHSS channels.
2. Apparatus of claim 1 wherein the altered hop sequence is a sequence which reduces the frequency of collisions between the first and second networks.
3. Apparatus of claim 2 wherein the altered hop sequence is the hop sequence of the interfering network having a predetermined translation applied thereto.
4. Apparatus of claim 1 wherein the altered hop sequence is an offset altered sequence.

5. Apparatus of claim 4 wherein the offset altered sequence is the hop sequence of the second network having an offset applied thereto.
6. Apparatus of claim 4 wherein the offset altered sequence is the hop sequence of the interfering network having an offset applied thereto.
- 5 7. Apparatus of claim 1 wherein said interference detector (b) detects interference as a degradation in network performance on the second network.

8. Apparatus comprising:

(a) a mode switch formed on a substrate which selects a hop sequence operating mode in a frequency hopping spread spectrum (FHSS) network in which a predetermined number of FHSS channels are used for frequency hopping, wherein the selected mode is one of at least a mode which dictates a hopping sequence and a mode which follows a hopping sequence;

(b) an interference detector which is formed on the substrate and coupled to said mode switch and which detects interference from an interfering network and joins the interfering network and determines interfering hop sequence data relating to the interfering network and thereafter joins a second network and based upon the mode selected by said mode switch performs a first predetermined action wherein the first predetermined action is an action selected from the group consisting of

(i) reporting the interfering hop sequence data over the second network, and

(ii) saving the interfering hop sequence data in local storage; and

(c) a hop sequencer which is formed on the substrate and coupled to said mode switch and which obtains the interfering hop sequence data by performing a second predetermined action wherein the second predetermined action is an action selected from the group consisting of

(iii) accepting the interfering hop sequence data over the second network, and

(iv) reading the interfering hop sequence data from local storage,

and which alters its dictated hop sequence while operating in the mode which dictates the hopping sequence based upon the obtained interfering hop sequence data;

wherein the altered hop sequence comprises the same number of channels as the predetermined number of FHSS channels.

9. Apparatus of claim 8 wherein the altered hop sequence is a sequence which reduces the frequency of collisions between the first and second networks.

5 10. Apparatus of claim 9 wherein the altered hop sequence is the hop sequence of the interfering network having a predetermined translation applied thereto.

11. Apparatus of claim 8 wherein the altered hop sequence is an offset altered sequence.

10 12. Apparatus of claim 11 wherein the offset altered sequence is the hop sequence of the second network having an offset applied thereto.

13. Apparatus of claim 11 wherein the offset altered sequence is the hop sequence of the interfering network having an offset applied thereto.

14. Apparatus of claim 8 wherein said interference detector (b) detects interference as a degradation in network performance on the second network.

15. Apparatus comprising:

(a) a mode switch formed on a substrate which selects a hop sequence operating mode in a frequency hopping spread spectrum (FHSS) network in which a predetermined number of FHSS channels are used for frequency hopping, wherein the selected mode is one of at least a mode which dictates a hopping sequence and a mode which follows a hopping sequence;

(b) an interference detector which is formed on the substrate and coupled to said mode switch and which detects interference from an interfering network and joins the interfering network and determines interfering hop sequence data relating to the interfering network and thereafter joins a second network and based upon the mode selected by said mode switch performs any one of

(i) reporting the interfering hop sequence data over the second network, and

(ii) saving the interfering hop sequence data in local storage; and

(c) a hop sequencer which is formed on the substrate and coupled to said mode switch and which obtains the interfering hop sequence data by one of

(iii) accepting the interfering hop sequence data over the second network, and

(iv) reading the interfering hop sequence data from local storage,

and which alters its dictated hop sequence while operating in the mode which dictates the hopping sequence based upon the obtained interfering hop sequence data;

wherein the altered hop sequence comprises the same number of channels as the predetermined number of FHSS channels.